

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DYNAMIC ACCURACY IN CONTINUOUS COLD ROLLING -U-

AUTHOR--MOSKVIN, V.M.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. V.U.Z., CHERNAYA MET., 1970, (2), 62-65

DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--COLD ROLLING, METAL ROLLING, PROBABILITY, DYNAMIC SYSTEM,
METAL STRIP, ACCURACY STANDARD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--2000/0556

STEP NO--UR/0148/70/000/002/0062/0065

CIRC ACCESSION NO--AP0124251

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124251

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MATHEMATICAL ANALYSIS OF THE CONTINUOUS COLD ROLLING OF METAL STRIP IS PRESENTED WITH SPECIAL REF. TO THE QUESTION OF DYNAMIC ACCURACY. THE PROBLEM OF DYNAMIC ACCURACY IS REDUCED TO A STUDY OF THE ACCURACY OF STATIONARY LINEAR SYSTEMS OF EQUATIONS INCORPORATING PARAMETERS OF BOTH SPECIFIC AND RANDOM NATURES, RELATING TO VARIOUS TYPES OF PERTURBATION. PROBABILITY CRITERIA FOR ESTIMATING THE ACCURACY OF SUCH SYSTEMS ARE PROPOSED.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EPITAXIAL GROWTH OF SILVER ON ELECTRICALLY HETEROGENEOUS SURFACES
OF SODIUM CHLORIDE CRYSTALS -U-
AUTHOR-(04)-DISTLER, G.I.; LEBEDEVA, V.N., MOSKVIN, V.V., KORTUKOVA, YE.I.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(4), 1149-54
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--EPITAXIAL GROWTH, SILVER, SODIUM CHLORIDE, METAL CRYSTAL,
CRYSTAL SURFACE, CRYSTAL ORIENTATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0377 STEP NO--JR/0181/70/012/004/1149/1154
CIRC ACCESSION NO--AP0126132

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0126132

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY ELECTRON MICROSCOPY, THE EPITAXIAL GROWTH WAS STUDIED OF AG ON ELEC. HETEROGENEOUS SURFACES OF NACL CRYSTALS CONTG. 0.15 WT. PERCENT PBCL SUB2. AT CRYSTAL TEMPS. OF 100 AND 150DEGREES THE CRYSTAL SURFACES ARE DECORATED BY INCLUSIONS OF THE PBCL SUB2 PHASE SURROUNDED BY DOUBLE ELEC. LAYERS. ON THE SURFACE OF THESE DOUBLE ELEC. LAYERS, CHARGED NEG., ORIENTATION COALESCENCE OF AG CRYSTALS TAKES PLACE INITIALLY, WHICH DETS. THE PARALLEL ORIENTATION (100) SUBAG MAGNITUDE OF (100) SUBNACL, WHILE ON THE REST OF THE SURFACE MIXED ORIENTATION (100)(111) SUBAG MAGNITUDE OF (100) SUBNACL IS OBSD. AT 20DEGREES ON THE SECTIONS OF IMPURITY ENRICHED NACL CRYSTALS, COALESCENCE OF AG PARTICLES WAS OBSD., WHICH CAUSED THE APPEARANCE OF MIXED ORIENTATION, WHILE AG CRYSTALS ON THE REMAINDER OF THE SURFACE WERE DISTRIBUTED HETEROGENEOUSLY. UNDER IDENTICAL CONDITIONS OF CRYSTN. (CRYSTAL TEMP., RATE OF CONDENSATION, DEGREE OF VACUUM), THE DETG. ROLE IN THE EPITAXIAL GROWTH IS PLAYED BY THE ELEC. RELIEF OF THE SURFACE OF THE CRYSTALS, AND THE ORIENTATIONAL COALESCENCE OF THE PREVIOUSLY FORMED PARTICLES TAKES PLACE PRIMARILY ON NEG. CHARGED SECTIONS OF THE CRYSTAL SURFACE. FACILITY: INST. KRISTALLOGR., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 629.7.036.3 : 531.7

TOYBER, M. L. and MOSKVIN, V. V., Riga Institute of Aviation
Civil Engineers

"Device for Determination of Instant of Specific Rotor Blade Passing
by a Given Point"

USSR Author's Certificate, Class G 01 m 7/00, G 01 d 5/12, No 322682,
application 7.04.70, published on 27.01.72 (from Referativnyy Zhurnal-
Aviatsionnyye i Raketnyye Dvigateli, No 7, 1972, Abstract No 7.34.104)

Translation: The device fixes the instant of a specific rotor blade
passing by a given point; the device includes impulse pickups one of
which is located opposite a pin on the rotor, a valve system and pulse
counters; in order to segregate the signal emanating from the pickups
during the passage of rotor blade a resolution flip-flop is connected
to the valve system inlet; the flip-flop is controlled by a coincidence
block and by a blade controller-switch (1 illustration, resume).

1/1

- 176 -

3

USSR

UDC: 531.787.7

PODGOYETSKIY, M. L., SHVARTSER, V. I., SHEYNKERMANN, E. Z., MOSKVINA, V. A.,
MAR'YANOVSKIY, Ya. M., LIVSHITS, A. M., PROZOROV, M. A., "Tsvetmetavto-
matika" Special Design Office

"A Pneumatic Compensation Differential Manometer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzysy, Tovarnyye Znaki,
No 36, Dec 71, Author's Certificate No 322676, Division G, filed 24 Nov 69,
published 30 Nov 71, p 138

Translation: This Author's Certificate introduces a pneumatic compen-
sation differential manometer which contains a diaphragm measurement unit
consisting of a support cushion, diaphragms, a diaphragm connector and a
needle gate valve. The manometer also contains a converter which changes
force to a pneumatic signal. As a distinguishing feature of the patent,
The accuracy and reliability of the device are improved by making the
diaphragm connector in the form of a hollow stepped cylinder with flanges
for fastening the diaphragms. The needle gate valve is located in the
inner cavity of the cylinder, which is equipped with a frame with contact
support element.

1/1

1/2 008 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ADDITION OF DIAZOMETHANE TO BETA ETHYNYLPYRIDINES -U-
AUTHOR--(04)-TERENTYEV, P.B., MOSKVINA, T.P., MOSHENTSEVA, L.V., KOST, A.N.
COUNTRY OF INFO--USSR
SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (4), 498-502
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--AZO COMPOUND, METHANE, PYRIDINE, MORPHOLINE, HETEROCYCLIC
NITROGEN COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/0932 STEP NO--UR/0409/70/000/004/0498/0502
CIRC ACCESSION NO--AP0134661

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134661

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO A SOLN. OF ETMGBR (FROM 4.8 G
MG AND 32.6 G ETRR) IN 120 ML TETRAHYDROFURAN (THF) WAS ADDED, DURING 1
HR, SHOWN ON MICROFICHE. FACILITY: MOSK. GOS. UNIV. IM.
LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 678.539.661.238.633/635

KADYKOV, V. V., and MOSKVITEN, N. L.

"Surface Active Polymer Films for Horticulture"

Plasticheskiye Massy, No 3, Apr 71, pp 53-54

Abstract: Polyethylene, polyvinyl chloride and other polymeric films are widely used for coverings and hot houses. These films in the course of use acquire significant static charges, which in turn attract particulate matter, thus inhibiting their transparency. The elimination of static charges can improve the service life and transparency of polymeric films by a factor of 1.5-2. For this purpose antistatic materials are introduced into the film. The principal action of these substances is based on increasing the conductivity of the materials by producing charge leakage from the film. The effectiveness of antistatic substances is based on decrease of the surface resistivity, electrostatic friction potential, the halflife of charge leakage from the materials and changes of the bulk electrical conductivity. The best indices of all of the tests were obtained for polyvinyl chloride film containing 2.5% O-15 dye as the surface active agent.

1/1

USSR

MOSKVITIN, V. V.

"Resistance of Viscoelastic Materials as Applicable to Solid-Fuel Rocket Engine Charges"

Soprotivleniye Vyazko-uprugikh Materialov Primenitel'no k Zaryadam Raketnykh Dvigatelye na Tverdom Toplivo [English Version Above], Moscow, Nauka Press, 1972, 328 pages (Translated from Referativnyi Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 V589 K, by N. I. Malinin).

Translation: This monograph is dedicated to the deformation and strength properties of solid rocket fuels (SRF) and problems of strength calculation of the charges in solid-fuel rocket engines. The introduction discusses some of the physical and mechanical properties of SRF. The first chapter determines the stress and strain tensors. The general Hooke's law and relationships of thermoelasticity are written for linear and nonlinear elastic media. The basic problems of the theory of elasticity are presented, basically in cylindrical coordinates, and some information is presented from the theory of plasticity. The second chapter presents methods of description of linear and nonlinear properties of hereditary media and the primary methods of solution of problems of linear and nonlinear viscoelasticity. The third chapter presents the theory of strength as applicable to ordinary structural materials and viscoelastic media such as SRF. The conditions of long-term

1/2

USSR

MOSKVITIN, V. V., Soprotivleniye Vyazko-uprugikh Materialov Primenitel'no k Zaryadam Raketnykh Dvigatelyey na Tverdom Toplivo, Moscow, Nauka Press, 1972, 328 pages.

strength are studied for static and variable loads. Chapter four studies the problem of polymerization stresses. Chapter five studies problems of determination of stresses and strains in a hollow viscoelastic cylinder contained in an elastic shell, for linear and nonlinear media with simple and complex shapes of the internal aperture. Chapter six is dedicated to temperature stresses arising with high and low deformations. Chapter seven studies problems of dynamic loading of viscoelastic cylinders and transverse oscillations. Chapter eight studies problems of determination of stresses in viscoelastic cylinders and their deformations when stored horizontally and vertically, and also when accelerations are applied. Chapter nine is dedicated to problems of vibrational heat formation in SRF materials, as well as modeling problems. 148 Biblio. Refs.

2/2

- 57 -

USSR

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NOSKOVITIN, V. I., and ABRAM, A. A., Moscow

"The Anodic Process in the Electrolysis of Titanium in Chloride-Fluorine Melts"

Moscow, Izvestiya Akademii Nauk SSSR, Metallurgy, No 4, Jul-Aug 70, pp 55-61

Abstract: The anodic process in electrolytes obtained by the interaction of TiCl_4 with a fused mixture of chlorides and fluorides of alkaline metals was experimentally investigated. The anodic process is discussed by reference to diagrams based on polarization curves, critical current densities, and the analysis of anodic gases. The gas analyses showed a predominance of Cl_2 when $\text{F/Ti} \leq 6.0$. The discharge of Cl_2 and F_2 on the graphite anode can be combined or individual, depending on the conditions. A decrease of the fusion temperature and the relation F/Ti and an increase of the anodic current density favor a primary discharge of chlorine on the anode.

1/1

Radiobiology

USSR

MOSKVITINA, L. T.

"Effect of Electromagnetic Radiation in the UHF-range on Blood Coagulation and Platelets"

V Sb. "Issled. po Geomagnetizmu, Aeron. i Fiz. Solntsa (In Collection of Works "Investigations Concerning Geomagnetism, Aerodynamics, and Physics of the Sun), No 26, Moscow "Nauka", 1973, pp 279-283 (from Referativnyy Zhurnal, Astronomiya, No 8, 1973, Abstract No 8.51.405)

Translation: An investigation of the effect of microwaves in the 3 cm range on the blood coagulating system revealed that waves in this range induce a number of changes manifested in conflicting shifts at the beginning and end of coagulation, and an increase in the number of platelets and their function simultaneously with a prolongation of time of the beginning of blood coagulation.

1/1

Nitrogen Compounds

USSR

UDC 539.19+541.57

KUZYAKOV, Yu. Ya., and MOSKVITINA, Ye. N., Chair of Physical Chemistry

"Structure, Vibrational Frequencies and Thermodynamic Functions of Difluorodiazine Isomers"

Moscow, Vestnik Moskovskogo Universiteta, Vol 12, No 2, Mar-Apr 71, pp 164-167

Abstract: The structural characteristics, vibrational frequencies and thermodynamic functions of cis-N₂F₂ and trans-N₂F₂ are reviewed. An assumption was made that a third isomer, 1, 1-difluorodiazine, also exists. The inactive isomer was taken to have transconfiguration. Using geometrical parameters obtained from the microwave spectrum, thermodynamic functions were calculated for cis and trans isomers in the temperature range 100-10000°K. From these data K_p for the isomerization of N₂F₂(trans) ⇌ N₂F₂(cis) in the temperature range 25-150°K with ΔH of the isomerization being 0.6 kcal/mol, were obtained. Some discrepancies between several K_p values are discussed.

1/1

USSR

UDC 621.317.36/76

KIRIANIKI, N. V., KLIMOVITSKAYA, A. I., and MOSKOVCHENKO, Yu. N.

"A New Zero-Beat Indicator and its Use for Frequency Measurement"

Otbor i peredach inform. Resp. mezhved sb. (Selection and Transmission of Information, Republic Interdepartmental Collection), 1972, No 32, pp 85 - 89 (from RZh-Avtomatika Telemechanika i Vychislitel'naya Tekhnika, No 3, Mar 73, Abstract No 3 A300 by the authors)

Translation: A new optical zero-beat indicator is described and the possibility of using it for frequency measurement is discussed. An analog frequency meter circuit with such an indicator and the results of experimental frequency meter studies are given. Ways to improve the circuit further are pointed out. Three illustrations, three bibliographic entries.

1/1

- 1 -

USSR

UDC 539.3

GUSENKOV, A. P., and MOSKVITIN, G. V., Moscow

"Analysis of Some Approaches to the Description of Cyclic Strain Diagrams"

Moscow, Mashinostroyeniye, No 4, Jul-Aug 73, pp 59-67

Abstract: An analysis is presented of a series of suggestions for the analytical description of cyclic strain diagrams. The advantages and deficiencies of the discussed approaches are demonstrated, the regularities of cyclic strain are investigated, and the application of the discussed approaches in solving problems of cyclic plasticity is indicated. The analysis of various expressions of cyclic elasto-plastic strain reveals that the presented analytical form of the generalized cyclic strain diagram and the generalized principle of G. Kasing (in: Wissenschaftliche Veröffentlichungen aus dem Siemens-Konzern, 1924, 3; 1926, 5) reflect most correctly the peculiarities of the strength of materials at cyclic loads. Illustrated calculated and experimental data of a series of half-cycle loads are in good agreement. Six figures, one table, eleven formulas, eight bibliographic references.

1/1

USSR

UDC: 51:621.391

PAKHOMOV, V. I., KORICHNEV, L. P., MOSKVITINA, A. A.

"On Calculating the Time of Transmission of a Codogram in a System With Random Selection of Nonstationary Channels"

Tr. Ryazan. radiotekhn. in-ta (Works of Ryazan Radio Engineering Institute), 1972, vyp. 30, pp 208-213 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V455 by Yu. Pyatoshin)

Translation: The paper deals with transmission of information over short-wave communications channels whose properties vary with time. The average time of transmission of a certain amount of information is calculated as a function of the permissible number of errors during the transmission time using a certain channel switching algorithm (an infinite number of communications channels are available which vary their properties with time and are described by a certain model).

1/1

- 32 -

USSR

UDC: 51.621.391

PAKHOMOV, V. I., KORICHNEV, L. P., and MOSKVIINA, A. A.

"Computing the Transmission Time of a Codogram With a Random
Choice of Nonstationary Channels"

Tr. Ryazan. radiotekhn. in-ta (Transactions of the Ryazan Radio
Engineering Institute) No 30, 1972, pp 208-213 (from RZh--
Matematika, No 7, 1973, Abstract No 7V455)

Translation: The transmission of information over shortwave channels
of a communication whose characteristics vary with time is considered.
The average time for transmitting a certain amount of information
is computed as a function of the permissible number of errors for
the transmission time with the use of an algorithm for channel
switching (an infinite number of channels, the characteristics of
each varying in time and describable by some model, is available).
Yu. Pyatoshin

1/1

172 024
TITLE--PHOTODETACHMENT CROSS SECTIONS OF NEGATIVE NITROGEN ION -U-
AUTHOR--~~POSKYIN~~, YU.V.
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTROSK. 1970, 28(4), 659-61
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--NITROGEN, NEGATIVE ION, PHOTOIONIZATION, IONIZATION CROSS
SECTION, ELECTRON ENERGY LEVEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1445
CIRC ACCESSION NO--AP0118434
STEP NO--UR/0051/70/028/004/0659/0661
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118434

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CROSS SECTION, SIGMA SUBV, FOR PHOTODETACHMENT FROM THE GROUND STATE PRIME3 P AND FROM THE EXCITED STATES PRIME1 D AND PRIME1 S OF THE NEG. N ION WERE CALCD. AND COMPARED WITH EXPTL. DATA. THE ELECTRON AFFINITY, E SUBO, WAS TAKEN AS 0.1, 1.53, AND 1.57 EV FOR THE PRIME3 P, PRIME1 D, AND PRIME1 S STATES, RESP. THE MAX. SIGMA SUBV FOR ALL STATES IS SIMILAR TO 10 PRIME NEGATIVE17 CM PRIME 2.

UNCLASSIFIED

Cytology

USSR

UDC 576.312.27:578.085.23

GANIN, A. F., and MOSOLOV, A. N., Chair of Microbiology, Central Scientific Research Laboratory of the Medical Institute, and Laboratory of Virus Genetics of the Institute of Cytology and Genetics, Siberian Department, Academy of Sciences USSR, Novosibirsk

"Changes in the Karyotype of L Cells After Capture by Them of Nuclei Isolated From Liver Cells"

Leningrad, Tsitologiya, Vol 13, No 3, Mar 71, pp 355-361

Abstract: In previous work by Mosolov et al, the capacity of cells of transplantable cultures HEP-2 and L to capture actively homologous and heterologous nuclei was demonstrated. The capture was accompanied by a pronounced increase in the glucose-6-phosphatase activity of L-cell cultures. At present a study of the karyotype changes in L cells after capture by them of various amounts of nuclei isolated from the liver of mice of the C3H line was carried out. After a single addition of liver nuclei to an L-cell culture, pronounced karyotype changes in the L-cell population were observed. These changes were manifested by an increase of the scope of karyotype variation of chromosome numbers and of the rate of polyploid cells. The extent and duration of karyotype changes depended on the concentration of the nuclei added to the culture. High

1/2

USSR

GANIN, A. F., et al, Tsitologiya, Vol 13, No 3, Mar 71, pp 355-361

concentrations of nuclei inhibited temporarily the growth of the cell culture. Cells that captured more than five nuclei degenerated. The extent of karyotype changes increased with an increasing degree of degenerative changes produced in the L cells as a result of capture of nuclei.

2/2

- 2 -

1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--CHANGES IN THE NUCLEAR STRUCTURE OF A PRIMARY HUMAN FETAL
FIBROBLAST CULTURE IN THE PRESENCE OF G-STREPTOLYSIN +U-
AUTHOR--(02)-GANIN, A.F., MOSOLOV, A.N.
COUNTRY OF INFO--USSR
SOURCE--TSITOLOGIYA 1970, 12(3), 387-8
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--EMBRYOLOGY, FETUS, TISSUE CULTURE, CELL PHYSIOLOGY, PROTEIN
SYNTHESIS, ANTIBIOTIC, SELECTIVE DRUG EFFECT/(U)STREPTOLYSIN ANTIBIOTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--3006/0277 STEP NO--UR/9053/70/012/003/0387/0388
CIRC ACCESSION NO--AP0134082
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134082

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STREPTOLYSIN ADDED TO FETAL FIBROBLAST CULTURE CHANGED IRREVERSIBLY THE STRUCTURE OF CELL NUCLEI, MAINLY BY CONDENSATION OF CHROMATIN AND FORMATION OF DEOXYNUCLEIC PROTEIN (DNP) GRANULES NEAR THE NUCLEAR MEMBRANES. CONDENSATION OF DNP WAS THE MAIN CAUSE OF DESTRUCTION OF THE GENETIC APPARATUS OF THE CELL. FACILITY: NOVOSIBIRSK MED. INST., NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--STUDY OF UV AND BLUE FLUORESCENCE ENHANCEMENT OF L FIBROBLASTS IN
VITRO AFTER X IRRADIATION -U-
AUTHOR-(04)-PROTSENKO, M.I., GANIN, A.F., GRUZDEV, A.D., MOSOLOV, A.N.
COUNTRY OF INFO--USSR
SOURCE--TSITOLOGIYA: 12: 214-19 FEB 1970
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TISSUE CULTURE, X RAY RADIATION BIOLOGIC EFFECT, CELL
PHYSIOLOGY, RADIATION DOSAGE, FLUORESCENCE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1984 STEP NO--UR/9053/70/012/000/0214/0219
CIRC ACCESSION NO--AP0120627
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120627

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. L FIBROBLASTS WERE IRRADIATED WITH X RAYS (200 AND 400 RAD) AND AFTERWARDS CULTURED IN VITRO. UV AND VISIBLE BLUE FLUORESCENCES OF CELLS WERE MEASURED. A RAPID INCREASE OF BOTH TYPES OF FLUORESCENCE WAS FOUND REACHING ITS PEAK BY THE 3RD DAY; ON DAYS 15 TO 20 THIS LEVEL DECREASED TO THE ONES OF THE CONTROL VALUES.
FACILITY: MEDICAL INST., NOVOSIBIRSK, USSR.

UNCLASSIFIED

USSR

UDC 599.32

DOBROKHOTOV, B. P., KOVALEVSKIY, Yu. V., ZHUKOV, V. I., and MOSOLOV, I. P.

"The Abundance of Small Rodents in the Fall of 1969 and Prognosis of Their Epizootic Status as Tularemia Vectors in the RSFSR in 1970"

Moscow, Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, No 6, 1970, pp 46-55

Abstract: The estimates of rodent populations and forecasts of tularemia epizootics for 1970 are based on reports from all 71 republic, kray, and oblast sanitary-epidemiological stations of the RSFSR that reached the RSFSR Ministry of Health from 10 November to 15 December 1969. Employing the same analytical methods that they used for the 1969 forecasts, which proved to be quite accurate (a total of 53 cases of the disease were recorded among humans, somewhat more than in 1968), the authors predict that 1970 will be one of the mildest in the history of the USSR as far as tularemia epizootics are concerned. Their optimism is based on sharply reduced numbers of rodents due to the unfavorable weather conditions that prevailed throughout most the RSFSR in 1969. If prophylactic measures are taken promptly in the few threatened localities identified, there should be only isolated cases among human beings.

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1/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--MEANS OF LOWERING THE TOXIC PROPERTIES OF UREA -U-
AUTHOR--(03)-MAKSAKOV, V.YA., MOSHKEVICH, V.B., MOSOLOVA, E.S.
COUNTRY OF INFO--USSR
SOURCE--VETERINARIYA (MOSCOW) 1970, 46(4), 79-80
DATE PUBLISHED-----70
SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ANIMAL HUSBANDRY, UREA, DIET, TOXICITY, PROTECTIVE COATING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1908 STEP NO--UR/0346/70/046/001/0079/0080
CIRC ACCESSION NO--AP0127309
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0127309

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO REDUCE THE TOXIC EFFECT OF UREA AS A N SOURCE FOR RUMINANTS, 2 MEHTOS OF FEEDING UREA, USING COATING WITH SHELLAC, WERE WORKED OUT. (A) ONE KG OF UREA GRANULES OF 1-2.5 MM DIAM. IS MIXED WITH 160 ML OF 20PERCENT SHELLAC IN ETOH ACETONE (7:3) AND DRIED IN AIR. (B) THE COMBINED DIET CONTG. UREA IS PELLETED AND COATED AS IN (A). IN EXPTS. CARRIED OUT IN BULLS WITH A RUMEN FISTUAL, FEEDING (A) OR (B) CONTG. 100 G UREA SLOWED THE RELEASE OF NH SUB3 BY 32 AND 23PERCENT, RESP., COMPARED WITH THE CONTROLS FED WITH UNCOATED DIETS. WHEN 100 G OF UNCOATED UREA WAS GIVEN, TOXIC SIGNS (SALIVATION, ATONY OF THE RUMEN, AND MUSCLE TWITCHING) APPEARED WITHIN 2 HR, WITH NH SUB3 CONCNS. IN PLASMA AND RUMEN 188 GAMMA PERCENT 61.6 MGPERCENT, RESP. NO TOXID SIGNS AND LOWER NH SUB3 LEVELS WERE SEEN IN ANIMALS FED COATED UREA (158 GAMMA PERCENT AND 48.7 MG PERCENT, RESP.). IN CHRONIC FEEDING EXPTS. WITH THE COATED DIETS (A) AND (B) FOR SIMILAR TO 100 DAYS, THERE WERE INCREASES IN THE PLASMA TOTAL PROTEIN BY 0.79PERCENT, IN N RETENTION BY 9-10PERCENT, AND IN MEAN DAILY WT. GAINS BY 9. 6PERCENT, AS COMPARED WITH THE CONTROLS. FACILITY: NAUCH.-ISSLED. INST. ZHIVOTNOVOD. LESOSTEPI POLES'YA, KHARKOV, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EFFECT OF THE NITROGEN NUTRITION LEVEL ON THE FORMATION AND QUALITY
OF THE GRAIN YIELD OF WINTER WHEAT -U-
AUTHOR--MOSOLOVA, L.V.
COUNTRY OF INFO--USSR
SOURCE--AGROKHIMIYA 1970, (4), 18-23
DATE PUBLISHED-----70
SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--WHEAT, NITROGEN FERTILIZER, PLANT PHYSIOLOGY, AMINO ACID
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/0463 STEP NO--UR/0485/70/000/004/0018/0023
CIRC ACCESSION NO--AP0134231
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134231

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE YIELD OF WINTER WHEAT WITH AN INCREASED CONTENT OF N IN GRAIN DEPENDED ON THE SUPPLY OF N, ESP. DURING GRAIN FORMATION. EXPTS. WITH PRIME15 N SHOWED THAT N OF THE LATE FERTILIZATION WAS INCORPORATED MAINLY INTO GLIADINS AND THAT AMMONIA N WAS BETTER UTILIZED THAN NITRATE N. THE N CONTENT OF WHEAT LEAVES AND STEMS REACHED MAX. VALUES AT THE END OF THEIR GROWTH; IN GRAIN, IT WAS MAX. AT THE TIME OF HARVEST. AT SHOOTING, WHEAT SAP CONTAINED 31.8-34.0 MG AMINO ACIDS PER 100 ML, MAINLY ARGININE AND ASPARAGINE (23.1-25.4 MG PER 100 ML). FACILITY: VSES. NAUCH.-ISSLED. INST. UDOBR. AGROPOCHVOVED., MOSCOW, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--MECHANICAL PROPERTIES OF NUCLEUS PULPOSUS OF THE LUMBAR
INVERTEBRAL DISCS BASED ON DATA OF BAKODISCOMETRY IN EXPERIMENT -U-
AUTHOR--(04)-TSIVYAN, YA.L., RAYKHINSHTEYN, V.KH., MOSOLEVA, A.D.,
OVSEYCHIK, YA.G.
COUNTRY OF INFO--USSR
SOURCE--ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 6, PP 55-60
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, BEHAVIORAL AND SOCIAL
SCIENCES
TOPIC TAGS--BONE DISEASE, ORTHOPEDIC SURGERY, MEDICAL TRAINING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/0915 STEP NO--UR/9115/70/000/005/0055/0060
CIRC ACCESSION NO--AP0129980
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0129980

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THIS PAPER THE RESPONSE OF THE INTERVERTEBRAL LUMBAR DISCS TO EXPERIMENTAL VERTICAL COMPRESSION IS ELUCIDATED. THE OBJECT OF THE STUDY WAS CADAVERIC MATERIAL. VARIOUSLY TREATED PREPARATIONS OF THE HUMAN LUMBAR SPINE WERE SUBMITTED TO COMPRESSING LOAD IN A SPECIALLY CONSTRUCTED APPARATUS. BARODISCOMETRY, PRESSURE IN NUCLEUS PULPOSUS OF THE DISC UNDER STATIC CONDITIONS WAS CHOSEN AS BASIC TEST. INFORMATION ABOUT THE INTRA-DISCAL PRESSURE WAS OBTAINED WITH AID OF A SPECIAL DEVICE, NEEDLE PROBE OF ORIGINAL CONSTRUCTION. DISCS OF VARIOUS DEGREE OF DEGENERATION HAVE BEEN INVESTIGATED. ON BASIS OF THE EXPERIMENTS THE AUTHORS PROPOSE A CONCEPTION OF THE AMORTIZATION FUNCTIONS OF LUMBAR INTERVERTEBRAL DISCS.

FACILITY: KLINIKI TRAVMATOLOGII I ORTOPEDII I OTDELA FIZIOLOGII NOVOSIBIRSKOGO INSTITUTA TRAVMATOLOGII I ORTOPEDII.

UNCLASSIFIED

USSR

UDC 621.376.4

SLASTENKO, A. N. and MOS'PAN, P. I.

"Aperiodic Phase Modulator With a Controlling Varicap"

V sb. Radioelektron. letatel'n. apparatov (Aviation Radio Electronics -- collection of works), Vyp.4, Khar'kov, Khar'kov. aviats. in-t, 1972, pp 40-43 (from RZh-Radio-tekhnika, No 11, Nov 72, Abstract No 11 D247)

Translation: The authors study the development of an aperiodic phase modulator which can find practical application in the development of special transmitting devices. The given calculations of the parameters and characteristics of the modulator show that this type of modulator is of simple construction and can operate, due to the absence of resonance elements within it, in a broad range of frequencies with sufficiently high stability of its parameters. Original article: one illustration and three bibliographic entries. Resume.

1/1

- 108 -

Receivers and Transmitters

USSR

UDC 621.374.4

MOS'PAN, P.I., YEFIMOV, S.E.

"To The Problem Of A Decrease Of Instability Of The Time Lag Of A Signal Spectrum In Fractional Regenerative Frequency Dividers"

V sb. Radioelektronika letatel'n. apparatov (Aircraft Radio Electronics-- Collection Of Works), No 3, Khar'kov, Khar'kov Aviation Institute, 1971, pp 80-85 (from RZh:Radiotekhnika, No 2, Feb 72, Abstract No 2D33)

Translation: Two methods are described of decreasing the instability of the time lag of the signal spectrum in dividers with a coefficient of division $(n + 1)/n$. Formulas and graphs are presented which illustrate the advantages of the stabilized dividers considered in the paper. Summary.

1/1

USSR

SLASTENKO, A. N. and MOS'PAN, P. I.

UDC: 629.78:621.38

"Analysis of the Operation and Calculation of the Basic Parameters of a Single Circuit Transistor-Type Phase Modulator With a Control Varicap"

Samoletostr. i tekhn. vozd. flota. Resp. mezhved. temat. nauch.-tekhn. sb. (Airplane Building and Technology of the Air Fleet. Republic Interdepartmental Thematic Scientific-Technical Collection of Articles), 1971, vyp. 26, pp 23-26 (from RZh-41. Raketostroyeniye, Moscow, No 3, Mar 1972, Abstract No 3.41.268)

Translation: The high economy and the high degree of reliability of single-circuit, transistor-type phase modulators with varicap control combine well with trends in the design of modern electronic aircraft equipment. The simple electric circuit of this type of modulator is easily realized in practice; however the complexity of the physical processes in this type of modulator, mainly conditioned by the nonlinearity of the volt-farad characteristic of the varicap, very frequently makes the design of this type of modulator difficult. A correct design of this type of phase modulator is possible only by making a detailed quantitative analysis of its processes and rigorously calculating its basic parameters. A quantitative analysis is presented of the operation of a transistor-type phase modulator with varicap control in the single circuit of the modulator. A method is described for calculating the transconductance of a modulator along with the coefficient

1/2

USSR

SLASTENKO, A. N. and MOSIPAN, P. I., Samoletostro. i tekhn. vozd. flota. Resh. razh-
ved. temat. nauch.-tekhn. sb., 1971, vyp. 26, pp 23-26

of the nonlinear distortion of its characteristics. Good fit is noted between the
calculations and the experimental data. Original article: one illustration and
three bibliographic entries. Resume.

2/2

- 102 -

USSR

UDC 629.78:621.396

SOBOL', V. F., MOS'PAN, P. I.

"The Influence of Vibration on the Phase of the Output Signal of an On-board Transceiver with APC"

Samoletostr. i Tekhn. Vozd. Flota. Resp. Mezhved. Temat. Nauch.-Tekhn. sb. [Aircraft Building and Air Force Technology, Republic Interdepartmental Thematic Scientific and Technical Collection], No 26, 1971, pp 26-29, (Translated from Referativnyy Zhurnal, Raketostroyeniye, No 4, 1972, Abstract No 4.41.238 by T. A. Ye.).

Translation: One factor significantly reducing the accuracy of measurement of the trajectory parameters of flight vehicles with Doppler systems is the influence of vibrations on the phase of the output signal of the on-board transceiver. This article demonstrates that in actual on-board transmitters, the influence of vibration on output signal phase can be eliminated by using automatic phase control. 4 Figures; 3 Biblio. Refs.

1/1

USSR

UDC: 621.375.024

MOS'PAN, P. I., SLASTENKO, A. N.

"Experience in the Development of Transistorized DC Amplifiers"

Samoletostr. i tekhn. vozd. flota. Resp. mezhved. nauchno-tekhn. sb. (Aircraft Construction and Air Fleet Technology. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 21, pp 67-70 (from RZh-Radio-tekhnika, No 11, Nov 70, Abstract No 11D140)

Translation: The authors analyze the operation of several transistorized DC amplifiers. The basic electrical parameters of the DC amplifiers are calculated, and the possibility of using the amplifiers in control circuits with automatic phase control is evaluated. It is shown that stabilization of zero drift in a DC amplifier in the frequency band is improved by a factor of 3-4 if the amplifier is connected in a balanced circuit with transistors which are selected in pairs for their electrical parameters. This is confirmed by the results of climate testing of 35 DC amplifiers in the temperature range from -40 to +70°C. Bibliography of five titles. Resumé.

1/1

5 -

USSR

UDC 621.375.82

LOKHOV, YU. N., MOSPANOV, V. S., and FIVEYSKIY, YU. D.

"Optical Surface Strength of a Transparent Dielectric"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No 2(14), Moscow, "Sov. Radio," 1973, pp 71-74 (English summary) (from RZh-Fizika, No 10, Oct 73, Abstract No 10D897 from authors' abstract)

Translations: A dynamic theory is developed for the optical strength of a dielectric under the action of a nanosecond-long pulse. It is shown that an important role here is played by surface absorption, which makes the chief contribution to thermoelastic stresses as compared to striction and volume absorption. A mechanism is suggested for the destruction of the rear end face under the action of thermoelastic stresses. The power of the pulse that destroys the surface is calculated. Bibliography with 12 titles.

1/1

- 50 -

USSR

UDC: 535.42

LOKHOV, Yu. N., MOSPANOV, V. S., FIVEYSKIY, Yu. D.

"Limiting Pulse Duration for Emission on the Second Harmonic in a KDP Crystal"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(3), 1972, pp 103-105

Abstract: When the second harmonic is generated by a powerful short light pulse, heating of the nonlinear crystal takes place in the laser beam channel, disrupting conditions of synchronism. An expression is found for the specific power of heat sources in a laser beam channel beyond which the efficiency of the nonlinear process is appreciably reduced. It is this effect which limits the duration of a pulse for a given pulse power. It is shown that the specific power of heat sources must not exceed a generalized parameter defined in terms of the optical and elastic parameters of a nonlinear crystal. A quantitative estimate for a KDP crystal gave a value of 10 J/cm^2 for the generalized parameter. The authors thank V.G. Dmitriyev for interest in the work. Two illustrations, bibliography of two titles.
1/1

USSR

UDC 621.375.82

LOKHOV, Yu. N., ~~MOSEVICH, V. S.~~ MOSEVICH, V. S., FIVEYSKIY, Yu. D.

"Maximum Pulse Duration in the Generation of the Second Harmonic in a KDP Crystal"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No. 2, Moscow, "Sov. radio", 1972, pp 103-105 (from RZh-Fizika, No 10, Oct 72, Abstract No 10D872)

Translation: Heating of a nonlinear crystal which leads to breakdown of synchronism conditions occurs in the channel of a laser beam in generating the second harmonic by a strong, short light pulse. An expression was obtained for the maximum power of heat sources in the channel of the laser beam which, if exceeded, considerably reduces the efficiency of the nonlinear process. This effect also limits its duration for a given pulse intensity. It is shown that the specific power of the heat sources need not exceed the value of the generalized parameter defined in terms of the optical and elastic parameters of the nonlinear crystal. A quantitative calculation made for the KDP crystal gave a value of the generalized parameter of 10 joule/cm^3 .
Authors abstract.

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NAVJNISC FROM 3104-73
DEPARTMENT OF THE NAVY
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4301 SUITLAND ROAD
WASHINGTON, D.C. 20390

CLASSIFICATION:

UNCLASSIFIED

APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

TITLE:

The Effect of the Non-homogeneity of the Stress
State and Initial Imperfections on the Stability
of Cylindrical Shells

AUTHOR(S):

Vil'nyaya neofluidnyy napryazhenno-deformirovannyy
i nachal'nyy nepoverkhnostnyy neustoiichivost' obolochki
Moskovskiy, V. I. 644466

PAGES:

18

SUBJECT:

Sixth All-Union Conference on Shell and Plate
Theory 1966

ORIGINAL LANGUAGE: Russian

TRANSLATOR:

C

RISC TRANSLATION NO. 1404

APPROVED P.T.K.

DATE 21 February 1971

USSR

UDC 522.932:536.244

MOSSE, A. L., Institute of Heat and Mass Transfer of the AN Belorussian SSR, Minsk

"Certain Problems of Heat Transfer in a Plasmo-Chemical Reactor"

Minsk, Inzhenerno-Fizicheskiy Zhurnal, Vol 21, No 3, Sep 71, pp 500-504

Abstract: Certain problems of heat transfer in plasmo-chemical cocurrent reactors are considered. Their fundamental design distinction from ordinary chemical reactors of a similar type consists of using a forced cooling of reactor walls, governed by very high temperatures brought into reactor by a plasma jet. The results of an experimental study of heat transfer between a nitrogen plasma jet mixing with a cold gas and the reactor channel walls, at various values of the channel expansion ratio f_0 , are treated using the known criterial equation $Nu = cRe^{0.8}Pr^{0.4}$. It was established on the basis of the generalization made for various values of channel expansion at $Re = 500$ to 2000 and at average temperature at reactor entry from 2000 to 6500°K, that the heat transfer coefficient depends significantly on temperature factor $\varphi = T_w/T$ when varying from 0.05 to 0.5. An empirical equation of the form

$1/2$

- 64 -

USSR

MOSSE, A. L., Inzhenerno-Fizicheskiy Zhurnal, Vol 21, No 3, Sep 71, pp 500-504

$Nu = B Re^{0.8} Pr^{0.4} (1/\phi)^{-2.2}$ is obtained for calculating heat transfer coefficient, where B is a constant characterizing the effect of channel expansion ratio f_0 on heat transfer coefficient. It is shown that with decreasing f_0 the heat transfer coefficient increases appreciably.

024

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--DEFLUORINATION OF PHOSPHATES IN A LOW TEMPERATURE PLASMA JET -U-

AUTHOR--(05)--PECHKOVSKIY, V.V., MOSSE, A.L., TETERYKOV, A.I., YERSHOV,
V.A., CHELNOKOV, A.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VYS. ENERG. 1970, 4(2), 114-18

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHOSPHATE, PHASE ANALYSIS, LOW TEMPERATURE PLASMA, PLASMA JET,
DEHALOGENATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3004/0971

CIRC ACCESSION NO--AP0131556

STEP NO--UR/0456/70/004/002/0114/0118

UNCLASSIFIED

2/2 024

CIRC ACCESSION NO--AP0131556

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE POSSIBILITY OF THE PREPN. OF
DEFLUORINATED PHOSPHATES BY MEANS OF A STREAM OF LOW TEMP. PLASMA IS
STUDIED. A DEFLUORINATED PHOSPHATE CONTG. PRACTICALLY ALL OF THE P SUB2
O SUB5 IN ASSIMILABLE FORM IS OBTAINED. THE PHASE COMPN. OF THE PRODUCT
IS STUDIED.

FACILITY: INST. TEPL0-MASSQOB MENA, MINSK, USSR.

UNCLASSIFIED

USSR

UDC 575.24

ROKITSKIY, P. F., ~~MOSSE, I. B.~~ KAMINSKAYA, E. A., and FREYMANIS, Ya. F.

"Study of the Protective Effect of Indene Compounds Against the Genetic Effect of Ionizing Radiations"

Minsk, Voprosy Genetiki i Seleksii (Aspects of Genetics and Selection), "Nauka i Tekhnika," Minsk, 1970, pp 303-304.

Translation: The protective properties of aminated indenenes specially synthesized at the Institute of Organic Synthesis of the Academy of Sciences Latvian SSR were investigated. It was established that seven of the compounds reduce the frequency of recessive lethal mutations induced in *Drosophila* by gamma-irradiation by 50-80 percent, and that five of the compounds diminish the level of chromosome reconstructions induced by X-ray irradiation by 50-75 percent.

Certain differences in the protective capacity of the indene preparations when used in combination with normal X-rays and high energy radiation were noted; for example, at a relatively high degree of protection from X-ray irradiation (180 kilovolts) the protective effectiveness of the preparations is reduced

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USSR

ROKITSKIY, P. F., Voprosy Genetiki i Selekcii (Aspects of Genetics and Selection), "Nauka i Tekhnika," Minsk, 1970, pp 303-304

during X-ray bremsstrahlung and is completely absent in most of the indene compounds in irradiation with electrons with an energy of 42 Mev. The possible mechanisms of the genetic effect of the preparations studied are discussed.

2/2

- 73 -

USSR

GRIB, A. A.; MOSTEPANENKO, V. M.; FROLOV, V. M. (Leningrad State University)
"Particle Production from a Vacuum by a Homogeneous Electric Field in Canonical
Formalism"

Moscow, Teoreticheskaya i Matematicheskaya Fizika; December, 1972; pp 377-90

ABSTRACT: A study is made of particle production from a vacuum by a homogeneous electric field varying arbitrarily with time. Exact formulae are obtained for the probabilities of fermion and boson pair production by a method of diagonalization of the Hamiltonian with the aid of Bogolyubov transformations. These formulae are applied to particular cases. The vacuum of quasi particles for $t \rightarrow \infty$ is interpreted as a condensate of particle-antiparticle pairs with a total momentum equal to zero. Different classical characteristics of this condensate are examined.

The article includes 74 equations. There are 19 bibliographic references.

1/1

USSR

UDC 621.313.12:538.4 (5)

APUKHTINA, YE. G., BORDACHEVA, V. V., VAL'DBERG, A. YU., VIKHROV, YE. A., KURKIN, V. P., MOSTINSKIY, I. L., NEKHOROSHEV, R. S., SOROKIN, G. S., FEDOROVA, ZH. S.

"Study of Various Methods of Trapping an Ionizing Additive in the U-02 Experimental Magnetohydrodynamic Generator"

V sb. Magnitogidrodinam. metod polucheniya elektroenergii (Magnetohydrodynamic Method of Obtaining Electric Power--collection of works), vyp. 3, Moscow, Energiya, 1972, pp 202-219 (from RZh-Aviatsionnyye i raketnyy dvigateli, otdel'-nyy vypusk, No 11, Nov 72, Abstract No 11.34.137)

Translation: The requirements on additive injection systems are formulated. Methods of trapping an ionizing additive and the structural execution are described. The operating experience using additive injection systems in experimental magnetohydrodynamic generators is described, and results are presented from studies of the efficiency of trapping them with submicron K_2CO_3 dust from a flow of combustion products are presented. A study was made of the advantages and disadvantages of each of the systems. There are 7 illustrations and a 13-entry bibliography.

1/1

UNCLASSIFIED
PROCESSING DATE--20NOV70
TITLE--CONVERSION OF POTASSIUM CARBONATE INTO POTASSIUM BICARBONATE IN A
LOW TEMPERATURE ZONE OF THE GAS CHANNEL OF A MAGNETOHYDRODYNAMIC, MHD,
AUTHOR--(05)--GOLUBKOVA, A.S., ZAKHAROVA, N.I., LARICHEVA, M.A., MOSTINSKIY,
L.L., AERHODUSHEV, R.S.
COUNTRY OF INFO--USSR
SOURCE--TEPLOFIZ. VYS. TEMP. 1970, 8(2), 459-60
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, ENERGY CONVERSION (NON-PROPULSIVE) PROPULSION
AND FUELS
TOPIC TAGS--COMBUSTION PRODUCT, IGNIZATION, POTASSIUM CARBONATE,
MAGNETOHYDRODYNAMIC CONVERSION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3004/1913
CIRC ACCESSION NO--AP0132175
STEP NO--UR/0294/70/0008/002/0459/0460
UNCLASSIFIED

2/2 042

CIRC ACCESSION NO--AP0132175

UNCLASSIFIED

PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) CP-C-

ABSTRACT.

THE CONVERSION OF THE IONIZING
ADDN. K SUB2 CO SUB3 TO KHCC SUB3 IN THE LOW TEMP. ZONE OF MHD
GENERATORS WAS STUDIED AT COMBUSTION PRODUCT TEMPS. 70-250DEGREES, ABS.
PRESSURES 5.5-7.5 N-M PRIME2, AND CO SUB2 CONTENTS IN THE COMBUSTION
PRODUCTS OF 8-9.5PERCENT. SHIELDED PROBE AND ISOSTATIC SAMPLING ON
GLASS WGL OF DUST LADEN VAPORS FOLLOWED BY CHEM. ANAL. CONFIRMED THAT
KHCC SUB3 FORMED AT TEMPS IS SMALLER THAN 160DEGREES AND THE FRACTION
KHCC SUB3 WAS 40 AND 80 WT. PERCENT AT 120 AND 70-90DEGREES, RESP.
FACILITY: INST. VYS. TEMP., MOSCOW, USSR.

UNCLASSIFIED

1/2 020
UNCLASSIFIED
TITLE--SPECTRA OF 3,OXO,2,3,DIHYDROTHIGNAPHTHENE AND ITS DERIVATIVES. XI.
INFRARED SPECTRA AND SPATIAL STRUCTURE OF SOME INDOGENIDES AND
AUTHOR--(03)--MOSTOSLAVSKIY, M.A., KRAVCHENKO, M.D., SHEVCHUK, I.N.
PROCESSING DATE--20NOV70
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(4), 1008-12
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--IR SPECTRUM, MOLECULAR STRUCTURE, HETEROCYCLIC SULFUR
COMPOUND, HETEROCYCLIC NITROGEN COMPOUND, CARBONYL RADICAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1146
STEP NO--UR/0076/70/044/004/1008/1012
CIRC ACCESSION NO--AP0128568
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128568

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VCO AND VNH IN THE IR SPECTRA OF COMPOS. I AND II (R PRIME1, R PRIME2 EQUALS CO SUB2 ET, AC, CN) WERE STUDIED IN CCL SUB4 AND VASELINE OIL. IN I (R PRIME 1 OR R PRIME2 CONTAINS A CO GROUP), THE EXISTENCE OF A N,H...O BOND WAS PROVED. A SHIFT OF 30 CM PRIME NEGATIVE1 TO HIGHER FREQUENCIES FOR VCO IN I COMPARED TO II IS CAUSED BY SIX MEMBERED RING FORMATION. VCO IN R DOES NOT CHANGE IF IT IS TRANS TO X; IF CIS, THERE IS A DECREASE OF 35-50 FOR I AND 15-33 CM PRIME NEGATIVE1 FOR II. THE STRUCTURE OF THE FOLLOWING COMPOS. WAS PROVED TO BE (X, TRANS R PRIME1, CIS R PRIME2, AND M.P. GIVEN): NH, CO SUB2 ET, AC, 121DEGREES; NH, CN, CO SUB2 ET, 204.5-5.5DEGREES; S, AC, CO SUB2 ET, 9103DEGREES; S, CO SUB2 ET, AC, 108-9DEGREES.

UNCLASSIFIED

Acc. Nr:

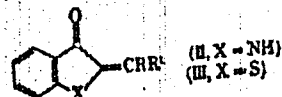
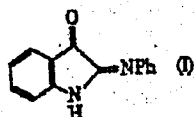
AP0049747

Abstracting Service:
CHEMICAL ABST. 5170

Ref. Code:

U80409

100398r Spectra of 3-oxo-2,3-dihydrothionaphthene and its derivatives. X. Some indogenides of an aliphatic series. Mostoslavski M. A.; Shevchuk, I. N. (Rubezhansk, Filial Nauchno-Issled. Inst. Org. Poluprod. Krasnoyarsk, Rubezhnoe, USSR). *Khim. Geterotsykl. Soedin.* 1970, (1), 21-3 (Russ). Isatin 2-anil (I) (10 g) was heated 10 min at 120° with 35 ml Ac₂O to give 8.42 g of its acetyl deriv., m. 133-3.5° (PhMe), a mixt. of which (0.5 g) and 2 ml Ac₂CH₃ was boiled 14 hr to give 0.05 g II (R = R' = Ac), m. 215-16° (PhCl). To obtain II



REEL/FAME

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(R = R' = CO₂Et), 6 g I, 4.2 g di-Et malonate, 35 ml Ac₂O and 5 drops of AcOH was boiled 2 hr to give II (R = R' = Et), m. 121.5-2.5° (C₆H₆-ligroine). Similarly prepd. compds. were II (R, R', and m.p. given): CN, CN, 260-2° (PhCl); CO₂Et, Ac, 120-1° (hexane); CN, CO₂Et, 204.5-5.5° (EtOH). In the visible region II absorb more intensively than III and the bathochromic shift depends on R and R' to a great extent. The shift is 20-5 nm if R and R' are Ac or CO₂Et and if one of the substituents is nitrile the shift amts. to 6-8 nm. There is no proportionality in the shifts among II and III. None of the synthesized II possess any phototropic properties as found in III.

S. K. Banerjee

19801660

USSR

UDC 621.382.3

GORYUNOV, N.N., SEMINA, G.K., ITKIN, B.YA., MCSTOVLYANSKIY, N.S.

"Investigation of Transistors Rejected During Tests Under An Electrical Load"

Elektron. tekhnika. Nauchno-tekhn. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, No 1(51), pp 106-115 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B177)

Translation: On the basis of an analysis of the overall rejections (breakdowns) of Type P605-P606 conversion Ge transistors of average power, the weak spots in the transistor structure developed during tests under an electrical load is where formation of a short circuit is most probable. It is shown that breakdowns of the emitter-collector junction originate with a decrease of the distance from the emitter to the groove [kanavka]; an acute angle of the emitter (and consequently of the collector junction) in the interior of the crystal at the ends of the emitter strip increases the intensity of the electrical field in the area of the space charge of the collector, which also can lead to a breakdown; and a breakdown of the base-collector develops in the area of increased intensity of the field and at points of mechanical defects. Several other causes of breakdowns are considered. 8 ill. 2 ref.

1/1

USSR

Instruments and Measurements

UDC 621.382:621.317.799

MCSTOVLYANSKIY, N.S., DRIZE, YE.I., REBOTENKO, O.G.

"Current Generator For Observation Of Voltampere Characteristics"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductor Devices And Their Application--Collection Of Works), Issue 24, Moscow, "Sov.radio," 1970, pp 236-246 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4B600)

Translation: Conditions are formulated for oscilloscoping the voltampere characteristics of S-type double-poles with negative resistance. A practical circuit is described for a cathode-ray curve tracer with a pulse duration adjustable in the range of 0.1--2 microsec. The output stage, accomplished with a transistor and electron tubes, assures a differential output resistance ≥ 0.5 Mohm with a load current in the hundreds of ma. 5 ref. Summary.

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UR 0482

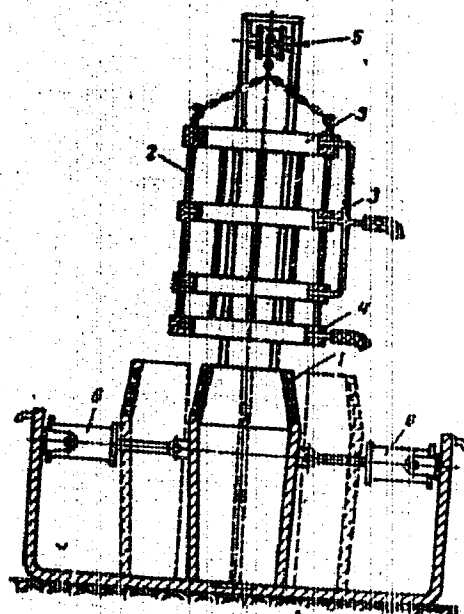
Soviet Inventions Illustrated, Section I Chemical, Derwent, /-96

240198 INGOT SPLIT MOULD (1) encloses the ingot with a frame (2) whose top headers (3) feed a heating medium onto the ingot surface and whose bottom headers (4) feed cooling medium. This frame travels along the ingot by mechanism (5) and (6) removes the mould parts clear of the ingot. Once the skin has formed, the mould is split and the ingot freed and the frame run upwards so as to feed in heating and cooling media as stated. This provides a controlled setting routine for the ingot to give better strength and reduce chemical heterogeneity problems.
23.2.68 as 1220982/22-2, MOSTOVOI, A. B. et al. (18.8.69)
Bul 12/21.3.69. Class 31b². Int.Cl.8 22d.

1/2
AUTHORS: Mostovoy, A. B.; Kudrin, V. A.;
Kamenskiy, L. A.; and Vygodner, L. I.

18
19750426

AA0040748



2/2

19750427

LD

USSR

UDC 629.78.015.4

MOSTOVOY, A. S., MINORANSKIY, E. I., CHURAKOV, A. A., FROLOVA, L. K.

"Theoretical Determination of Durability of A Specimen in Extension and Compression"

Tr. Kuybyshev. Aviats. In-t. [Works of Kuybyshev Aviation Institute], No 48, 1971, pp 222-230, (Translated from Referativnyy Zhurnal, Raketostroyeniye, No 2, 1972, Abstract No 2.41.185 from the Resume).

Translation: This work presents a mechanism of fatigue rupture, according to which the specimen is looked upon as a set of discrete fiber elements, exerting no pressure on each other. The linear theory of adding of fatigue damage is applied to an individual fiber. With this approach, the accumulation of damage in a fiber is determined by its stressed state, studied considering its loading history. The dependence of stress in the fiber on the rupture number of cycles, the fatigue curve for a crack, can be produced experimentally. Appearance of the first microcrack is interpreted as rupture of the most highly stressed fiber. Thus, if the time corresponding to the development of a crack is known and the process of crack propagation is described, the durability of the specimen can be calculated. 7 Figures; 2 Tables; 3 Biblio. Refs.

1/1

" 97 -

USSR

UDC 539.43

MOSTOVOY, A. S., KOZLOV, A. A., FROLOVA, L. K., CHURAKOV, A. A., Kuybyshev
"Determination of Durability of Structural Elements on the Basis of Certain
Concepts Concerning the Mechanism of Fatigue Rupture"

Problemy Prochnosti, No 3, 1972, pp 21-27.

Abstract: A method is presented for calculating the fatigue durability of a structural element of an aviation product manufactured of 1Kh18Ni9T steel. The mechanism of fatigue rupture is described by integral equations for the derivatives which are the inverse of the rates of propagation of cracks along selected coordinates. Integration of the derivatives produced yields the crack propagation time. The durability is calculated with programmed loading using damage curves produced by calculating durability with harmonic loading. The results of calculation of durability of the structural element with harmonic and programmed loads are compared with experimental results. The correspondence is quite satisfactory.

1/1

172 033

UNCLASSIFIED

PROCESSING DATE--11SEP70

TITLE--CHARACTERISTICS OF SUBJECTIVE NOISIES IN HYPERTENSIVE DISEASE -U-

AUTHOR--MOSTOVY, S.I., NOVIKOVA, R.K.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 3, PP 92-94

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYPERTENSION, WHITE NOISE, SYNDROME, AUDITORY SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0967

STEP NO--UR/0475/70/000/003/0092/0094

CIRC ACCESSION NO--AP0102906

UNCLASSIFIED

2/2 033

CIRC ACCESSION NO--AP0102906

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. OF 169 PATIENTS WITH HYPERTENSIVE DISEASE 71 (42PERCENT) COMPLAINED OF NOISES. THEIR FREQUENCY INCREASED WITH THE SEVERITY OF THE DISEASE AND AGE. IN 45 PATIENTS THE MAIN SITE OF THE NOISE WAS THE HEAD. TWENTY SIX PATIENTS COMPLAINED OF NOISE IN THE EARS. FOLLOWING TREATMENT IN THE BIOTRON THE NOISE IN BOTH LOCATIONS DISAPPEARED OR SIGNIFICANTLY DECREASED. IN THE MAJORITY OF PATIENTS WITH HYPERTENSIVE DISEASE NOISES ARE OF CENTRAL CHARACTER. THEIR BASIS IS POSSIBLE DYNAMIC CIRCULATORY DISORDERS, TROPHIC DISORDERS OF THE AUDITORY ANALYSER.

UNCLASSIFIED

USSR

UDC 633+632.938

SMIRNOVA, L. A., ANFILOKOVA, L. K., SOLOV'YEVA, A. I. (Deceased), RUDANOVSKAYA, Ye. A., RASSADINA, Ye. G., CHUMAKOV, A. Ye., and MOSTOVOY, V. A., All-Union Scientific Institute of Plant Protection, Leningrad, North Caucasian Scientific Research Institute of Plant Pathology, Krasnodar, and Central Asian Scientific Research Institute of Plant Pathology, Tashkentskaya Oblast

"Face Formation in *Puccinia graminis* Pers. f. sp. *tritici* in the USSR"

Leningrad, Mikologiya i Fitopatologiya, No 6, 1971, pp 494-499

Abstract: Besides discussing the current status of the problem of the race composition of stem rust of wheat, the article synthesizes the latest data embodied in reports sent to the journal Mikologiya i Fitopatologiya for publication. More than 100 races are now known, many discovered in the last 10 years. During this time the main races of *P. graminis* were fairly stable, with changes occurring only in their quantitative correlations in different years and geographic zones. Despite their great variety, only a few are found in almost all zones, i.e., 11, 17, 21, and 34. The sexual process, heterokaryosis, and mutations play a major role in the origin of new races of the agent of stem rust of wheat. The factor most responsible for the formation of new virulent races is the presence of resistant wheat varieties grown for a long time over large areas.

1/1

Nuclear Science and Technology

USSR

UDC 539.125.5.162.2:621.039.512.45

MOSTOVOY, V. I., TRUKHANOV, G. Ya., SAFIN, Yu. A., and MOSKOVSKIY, V. N.

"Analysis of Experiments on Thermalizing Neutrons in a Graphite-Water System"

Moscow, Atomnaya Energiya, Vol 31, No 5, Nov 71, pp 459-464

Abstract: The paper presents an analysis of experimental data on neutron thermalization in a graphite-water system at graphite temperatures of 443-823°K. The initial data for the analysis were provided by experiments conducted over a period of years at the Institute of Atomic Energy imeni Kurchatov. The system studied was comprised of a graphite prism and an aluminum tank full of water separated by heat shields, the neutron spectra being vector fluxes $\phi(z, v, l)$ in the direction perpendicular to the interface, measured at various distances from the temperature discontinuity. The measurements were made by the time-of-flight method. The results are compared with data of calculations of a multigroup kinetic equation. A brief explanation is given of methods of obtaining the first relaxation length and the length of rethermalization from the experimental data. The lengths of relaxation and rethermalization are given for graphite and water at different graphite temperatures. The authors thank L. V. Mayorov for constructive criticism.

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USSR

UDC 62-501.7:629.7.015

BOCHKAREV, A. F., ~~MOSTOVOY, YA. A.~~

"Analysis of the Sensitivity of Weakly Damped Nonstationary Linear Systems"

Kazan', Izvestiya vysshikh uchebnykh zavedeniy - Aviatsionnaya tekhnika, No. 2, 1971, pp 5-12

Abstract: Problems associated with obtaining modified functions of the sensitivity for linear nonstationary automatic control systems are discussed. Previous studies by the authors dealing with an approximate solution of a system of differential equations describing the behavior of an automatic control system showed that an approximate solution for weakly damped systems obtained on the basis of sensitivity theory methods is of satisfactory accuracy only for small variations in the parameters. Equations were also found for the approximation error (the difference between the exact and approximate solution) and analysis of these equations produced a technique for modified sensitivity functions by which one can obtain greater accuracy in the approximate solution as compared with the ordinary method. These studies consider the accuracy of the application of sensitivity functions both ordinary functions and functions modified for linear stationary systems, but similar problems for linear nonstationary systems were not sufficiently studied until this article. It is shown that modified sensitivity functions are obtained after an

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USSR

BOCHKAREV, A. F., MOSTOVOY, YA. A., *Izvestiya vysshikh uchebnykh zavedeniy - Aviatsionnaya tekhnika*, No. 2, 1971, pp 5-12

integral transformation of the argument of the system and as distinct from ordinary systems take into account derivatives of the coordinates and parameters of the system. Equations for the modified sensitivity functions in this case contain terms taking into account increments in time-variable parameters under a shift in the approximate solution for balancing the phase of its vibrational component with the phase of the vibrational component of the exact solution. The error in the approximate solution obtained through the use of modified sensitivity functions is considerably less than the error of the approximate solution found with the aid of ordinary sensitivity functions. The modified sensitivity function method is not limited to the class of systems only with "slowly changing coefficients." The only essential factor is the possibility of the linear approximation of the system parameters for the time shift intervals as can occur in the case of rapidly changing parameters with smaller "shift" times.

2/2

USSR

UDC 62 - 501.7:629.7.015

BOCHKAREV, A. F., MOSTOVOY, Ya. A.

"Determining Modified Functions of Differential Equations System Sensitivity Describing a Disturbed Motion of an Aircraft"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatcionnaya Tekhnika, No 3, 1971, pp 15-20

Abstract: Method of obtaining modified functions of differential equations system sensitivity of a disturbed motion of an aircraft is considered. This method makes it possible without a substantial increase in computing time to reduce the error of the approximate solution. It is shown, that in this case, the integral transformation of the argument of the considered system of differential equations can be carried out on the basis of angular motion natural frequency. The obtained modified functions of system sensitivity depend on derivatives with respect to time, on system parameters and coordinates, and make it possible to obtain significantly higher accuracy of approximate solution, than the usual functions.

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USSR

UDC: None

YEROZOLIMSKIY, B. G., BONDARENKO, L. N., ~~MOSTOVOY, Yu. A.~~
OBINYAKOV, B. A., PEDUNIN, V. P., and FRANK, A. I.

"Measurement of Neutron Spin-Electron Impulse Angular Correlation
in the Decay of Polarized Neutrons"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki,
vol. 13, No. 7, 5 April 1971, pp 356-359

Abstract: This letter offers an experimental method for precise measurement of the angular correlation coefficient in the beta decay of neutrons. To avoid errors due to proton recoil and other factors, the operating part of the neutron beam in the experimental apparatus is separated out by a diaphragm from the electron detector, and the recording of all decay protons corresponding to the recorded electrons is thus guaranteed. A cross-sectional sketch of the apparatus is given. The polarization coefficient of the neutron beam, measured by the Stern-Gerlach method, was 0.77 ± 0.02 at an intensity of $3 \cdot 10^7$ neutrons/sec. The

1/2

- 115 -

YEROZOLIMSKIY, B. G., et al, Pis'ma v Zhurnal Eksperimental'noy i Teoriticheskoy Fiziki, vol. 13, No. 7, 5 April 1971, pp 356-359

experimental work was done in the IRT-M reactor of the Institute of Atomic Energy imeni I. V. Kurchatov. The authors express their gratitude to P. Ye. Spivak for his interest; to A. I. Afonin, A. G. Roshchin, A. Yu. Kulikov, and S. I. Kuznetsov for setting up the equipment and making measurements; and to the personnel under the direction of V. P. Chernyshevich, in charge of the IRT-M reactor.

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USSR

M
YEROZOLIMSKIY, B. G., BONDARENKO, L. N., MOSTOVOY, Yu. A., OBINYAKOV, B. A.;
ZAKHAROVA, V. P.; and TITOV, V. A., Institute of Atomic Energy imeni I. V.
Kurchatov

"Search for Three-Vector Correlation in the Decay of Polarized Neutrons"

Moscow, Yadernaya Fizika, Vol. 11, No. 5, May 70, pp 1049-1057

Abstract: An experiment conducted to measure the constant D of triple correlation between the vectors of the neutron spin σ and the electron and antineutrino momenta p_e and $p_{\bar{\nu}}$ is described. The experiment was conducted on the IRT-M reactor of the Institute of Atomic Energy imeni I. V. Kurchatov. 23 series of measurements of duration 35-100 hours each were conducted and approximately $9.1 \cdot 10^4$ decay events were recorded. The average value of the coefficient D for all series was -0.01 ± 0.01 . The accuracy in obtaining the constant D made it possible to establish the difference from 180° of the phase difference between the axial-vector and the vector constants of weak interaction; this was found to be

$$\phi = 181.3^\circ \pm 1.3^\circ.$$

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1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SEARCH FOR THREE VECTOR CORRELATION IN POLARIZED NEUTRON DECAY -U-
AUTHOR-(05)-YEROZOLIMSKIY, B.G., BONDARENKO, L.N., MOSTOVOY, YU.A.,
OBINYAKOV, B.A., ZAKHAROVA, V.P.
COUNTRY OF INFO--USSR
SOURCE--YADERN. FIZ.: 11: 1049-57, MAY 1970
DATE PUBLISHED---MAY70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--NEUTRON, RADIOACTIVE DECAY, ELECTRON, ANTIPARTICLE, WEAK
NUCLEAR INTERACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605020/D09 STEP NO--UR/0367/70/011/000/1049/1057
CIRC ACCESSION NO--AP0141021
UNCLASSIFIED

2/2 014

CIRC ACCESSION NO--AP0141021

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE VALUE OF THE CONSTANT ϕ OF THE TRIPLE CORRELATION BETWEEN THE VECTORS OF THE NEUTRON SPIN σ AND THE DIRECTIONS OF THE ELECTRON AND ANTINEUTRINO MOMENTA p_{SUBE} AND p_{SUBPI} IS FOUND TO BE MINUS 0.01 PLUS OR MINUS 0.01. THE CORRESPONDING PHASE SHIFT BETWEEN AXIAL VECTOR AND VECTOR CONSTANTS OF THE WEAK INTERACTION IS ϕ EQUALS 181.3 PLUS OR MINUS 1.3 DEGREES.

FACILITY: INST. OF

ATOMIC ENERGY, MOSCOW.

UNCLASSIFIED

USSR

M

UDC 621.381.659.21

MCSTOVSKIY, A.A., LAFUSHKINA, L.V., KUTUSOVA, T.D., KAZAKEVICH, G.A.

"Photoelectronic Receiver With Semitransparent Photocathode"

USSR Author's Certificate No 252495, Filed 9 Nov 62, Published 9 Mar 70 (From
RZh--Elektronika i yeye primeneniye, No 10, October 1970, Abstract No 10.201F)

Translation: A method is proposed for increasing the sensitivity of semitrans-
parent photocathodes by use of the phenomenon of total internal reflection with the
aid of an external prism of the same material as the substrate of the photocathode.
N.S.

1/1

USSR

UDC: 621.372.54

MOSTYAYEV, V. A., IVANOV, A. D., ABRAMOVICH, M. I., KUZIN, V. I., YAROSLAVSKIY, M. I.

"Low-Frequency Quartz Resonators With Vibrators Mounted by the Pressure Welding Method With Indirect Pulse Heating"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiokomponenty (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 5, pp 26-30 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V381)

Translation: The authors consider parameters of low-frequency quartz resonators with contour and bending vibrations in which the leads are fastened to the piezoelectric elements by pressure welding with indirect pulse heating. It is shown how these resonators have advantages over those in which the leads are fastened to the piezoelectric elements by soft solder. Authors' abstract.

1/1

- 109 -

USSR

MOSUNOV, V. N., STREKALOV, L. N.

"Description of Initial Geometry of Information on a Part Based on the Theory of R Functions"

Vopr. Vychisl. i Prikl. mat. [Problems of Computer and Applied Mathematics -- Collection of Works], No 5, Tashkent, 1971, pp 176-179, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V754 by V. Mikheyev).

Translation: A method is suggested for description of the boundaries of a part as a single analytic expression. The essence of the method is that, introducing the binary variable D with the predicate

$$D \Leftrightarrow S [f(x, y, z)] = [f(x, y, z) \geq 0],$$

where $f(x, y, z) = 0$ is the equation of the elementary surface and defining the logic of construction of the boundary of the part using a certain Boolean function $F(D_1, D_2, \dots, D_n)$, where D_1, D_2, \dots, D_n are the areas defined by inequalities $f_i(x, y, z) \geq 0$, the equation for the boundary of the part is

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USSR

MOSUNOV, V. N., STREKALOV, L. N., Vopr. Vychisl. i Prikl. mat., No 5, Tashkent, 1971, pp 176-179.

a certain R function. Areas D_1, D_2, \dots, D_n are defined as sets A_i ($i = 1, 2, \dots, n$), each of which is a piece of a certain elementary surface

$\Gamma = \bigcup_{i=1}^n A_i$. . A method is presented for definition of each of the sets A_i .

2/2

USSR

UDC 539.3

MOVSIYAN, L. A.

"Resistance of Cylindrical Shells to Fast Loading"

Yerevan, Doklady Akademii Nauk Armyanskoy SSR, Vol LV, No 4, 1972, pp 211-217

Abstract: The stability of cylindrical shells in the presence of fast loading is investigated. A cylindrical shell is considered, one edge of which is fixed (in the momentless sense) and the second edge moves in the direction of the first with a constant velocity. Both disturbed and undisturbed movement of the shell are considered. Graphs are presented showing the distribution of the tangential subcritical forces along the length of the shell for different values of the Poisson coefficient and different relative lengths of the shell and the distribution of the tangential forces with respect to length of the shell after a wave has been reflected half the length of the shell. The critical parameter selected for the classical concept of stability of the shell is the critical length of loss of stability or the critical time. In considering the problem of stability under impact, two problems were investigated: determination of the time and form of loss of stability.

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The problems of stability in the presence of transverse fast loading

USSR

MOVSISYAN, L. A., Doklady Akademii Nauk Armyanskoy SSR, Vol LV, No 4, 1972, pp 211-217,

are solved analogously under the assumption that the undisturbed movement is momentless and axisymmetric. Some specific examples are considered: 1) the external pressure is applied instantaneously and kept constant throughout the time of motion; 2) the external pressure is applied in the form of a pulse; 3) the case is considered where the external pressure is a linear function of time.

2/2

- 114 -

AA0051848

V.A. MOSYAKOV

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

239597 INDUCTIVE LEVEL METER where a float can move freely along the inductive coils indicating its position corresponding to the measured level. The float has been improved, it has two flanges which make it possible to obtain a parallel reading from two independent coils.

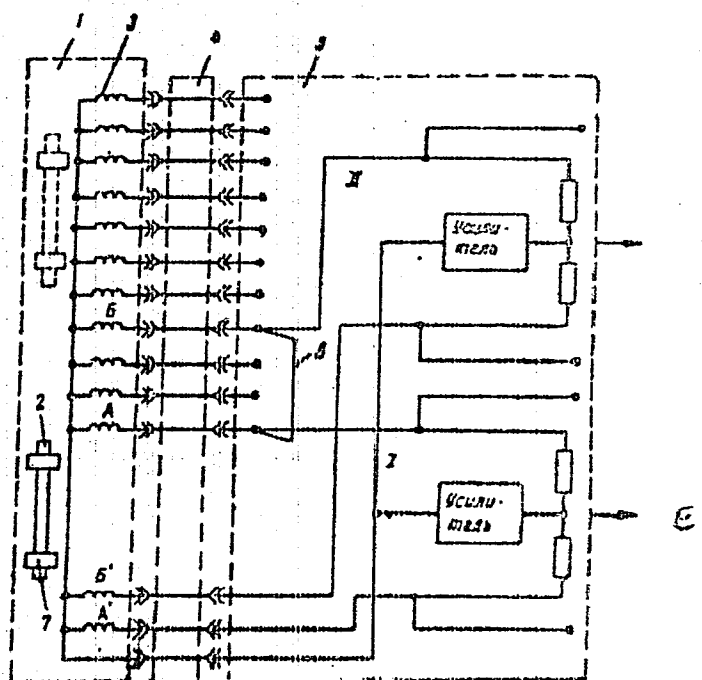
12.12.66 as 1119046/26-10. A.S. ABRAMOV et al.
(28.7.69) Bul 11/18.3.69. Class 42a. Int.Cl.G 01f.

AUTHORS: Abramov, A. S.; Zotov, S. V.; Maslov, G. S.; Vargin, B. A.;
Shorin, N. I.; Kornyushin, P. M.; Mirskoy, B. I.; Chistyakov, N. N.;
Mosyakov, V. A.; Kozlovskiy, G. V.; Chichigin, I. B.; Batov, V. A.;
Golovachev, V. T.; Lyakhterov, M. N.; Kobelev, Yu. M.

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19820276

AA0051848



19820277

AA0039817

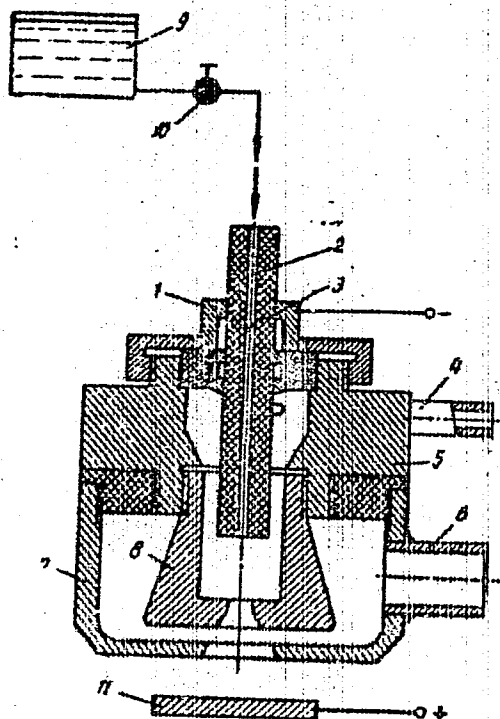
UR 0482 .

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/78

239010 JET FOR PLASMA CUTTING OF METALS where in order to increase the quality of cutting at the account of eliminating the double arc-formation and improving the stability of the arc's burning, the electrode 2 is made hollow, with the diameter of aperture 3 not exceeding the inner diameter of the forming nozzle 8. The reservoir with the electrolyte 9 is connected with the cavity of the electrode. 22.1.68. no 1211953/25-27. O.Ya.MOSIASHVILI et alia Tbilisi Sect. Electric Welding Equipment Res. Inst. (15.7.69.) Bul.10/10.3.69. Class 49h. Int.Cl. B23h.

19741164

AA0039817



19741165

LD

AA0039817

AUTHORS: Mosiyashvili, O. Ya.; Suladze, R. N.; Navdarashvili, I. I.;
Devdariyani, M. G.

Tbilisskiy Filial Vsesoyuznogo Nauchno-Issledovatel'skiy Instituta
Elektrosvarochnogo Oborudovaniya

3/3

19741166

Optics & Spectroscopy

USSR

UDC 621.375.82

MOSYAKIN, Yu. S., SKROTSKIY, G. V.

"A Hologram as an Optical Element. (Survey)"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No 3, Moscow, "Sov. radio," 1972, pp 3-12 (from RZh-Fizika, No 1, Jan 73, Abstract No 1D976)

Translation: Problems associated with the development and application of holographic optical elements are discussed. Existing optical elements do not always fully satisfy the requirements of coherent optics. The properties and application of analogs of lens-holographic zone plates are discussed. Hologram multipliers can be developed on the basis of such hologram lenses. Holographic diffraction grids and certain devices in which they are used are described. Holographic elements operating without the use of additional optical attachments, in which their advantages are most clearly evident, are considered. The possibility of developing complex holographic devices carrying out functions which were impossible to achieve by means of classical optics is discussed. Authors' abstract.

1/1

USSR

UDC 681.325.66(088.8)(47):621.3.072.8

LOBACHEV, V. M., MASLOV, B. V., MOTENKO, N. I., and SHAGULIN, V. I.

"A Shaper for Control of Pulse-Potential Cascades"

USSR Author's Certificate No 285970, Filed 7 Apr 69, Published 12 Jan 71
(from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya
Tekhnika, No 8, 1971, Abstract No 8B182 P)

Translation: A shaper which controls pulse-potential cascades is being patented. It contains an emitter-repeater, the transistor of which is shunted by a diode. In order to decrease power consumption and to accelerate the process of discharging the capacitors of the control circuits, the diode indicated above is switched on in a direction opposite the shunted transition of the base-emitter of the transistor of the repeater. The latter, made from electrodes galvanically decoupled from the common line of the power supply, is charged simultaneously at all control resistors of the indicated pulse-potential cascades, each of which is connected with the corresponding output terminals via its own capacitor and an additional diode.

1/1

- 33 -

Epidemiology

USJR

UDC 616.988.25-036.21(474.5)

CHUMAKOV, M. P., MOSEYUNAS, L. I., BYCHKOVA, M. V. and VARGIN, V. V., Institute of Polyomyelitis and Viral Encephalitides, Academy of Medical Sciences USSR, Moscow, and Lithuanian Republic Sanitary-Epidemiological Station, Vilnius

"Study of Natural-Focus Infections in the Lithuanian SSR. I. Rate of Infection of Ixodid Ticks with Uukuniemi and Tickborne Encephalitis Viruses in Different Ecological and Faunal Regions"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 5, 1973, pp 83-87

Abstract: A total of 29 virus strains - 12 tickborne encephalitis and 17 Uukuniemi -- were isolated from about 14,000 adult ticks collected from 1969 to 1971 in 4 of the 5 ecological and faunal regions of Lithuania. (Two Uukuniemi virus strains isolated in 1970 from Ixodes ricinus ticks were the first strains of this virus to be found in the USSR). Tickborne encephalitis virus strains were isolated both from Ix. ricinus (11) and from Ix. persulcatus (1), while Uukuniemi virus strains were isolated only from Ix. ricinus. These arboviruses were isolated almost 3 times as often from ticks collected in June as from those collected in August. The number of individuals immune to Uukuniemi virus in the regions where it was isolated was 4.8 times greater
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USSR

CHUMAKOV, M. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 5, 1973, pp 83-87

than in other regions (17.3 and 3.6%, respectively). Thus, the level of immunity to this virus is directly correlated with the infection rate of the ticks.

2/2

- 4 -

USSR

UDC 615.33.012.6:697.9427.036.8

MOTINA, G. L., BASMANOV, P. I., and REVIN, A. A., All-Union Scientific Research Institute of Antibiotics, Moscow

"Method of Determining the Effectiveness of Filter Materials for the Sterilization of Air"

Moscow, Khimiko-farmatsevticheskiy Zhurnal, Vol 5, No 12, Dec 71, pp 28-31

Abstract: An experimental technique is described for testing air filter materials based on the standard testing of protective gas mask canisters modified by the use of oil mist. The essence of the method lies in determining the oil mist aerosol concentration ratio after passage through the filter to the concentration prior to filtering. Diagrams are presented of the test stand and the equipment for measuring the filtering properties. The units have been effectively used for testing a variety of filters and filter materials. Experimental data on tests of two commercial filters for airtightness, productivity and efficiency are cited in a table. (Two illustrations, one table, 10 biblio. references).

1/1

- 3 -

Glass and Ceramics

USSR

UDC 666.189.212:539.433

BARTENEV, G. M., Doctor of Chemical Sciences, and MOTORINA, L. I., Candidate of Technical Sciences, Moscow State Pedagogical Institute ~~Imeni V. I. Lenin~~

"The Effect of Vibration on the Strength of Glass Fiber"

Steklo i Keramika, No 3, Mar 71, pp 34-36

Abstract: Discrepancies in the results of measurements of the strength of glass fiber of the same chemical composition and even of the same fiber in different laboratories have been noted frequently. Although many factors affect the strength of glass fiber, the principal cause for the divergence of the results of strength measurements is considered to be the difference in the test methods. This article considers one such cause. It was found that small vibrations lower the strength of the tested glass fibers. The tests were conducted with vibrations of varying amplitudes in the frequency range from 15 to 3000 Hz. The strength of the fiber decreases with the increase of the amplitude of oscillations. This effect is practically independent of the frequency of vibration if the amplitude of the displacement is maintained constant. The maximum decrease in strength was observed in the tests at 110 Hz frequency, the resonance frequency for the test

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USSR

BARTENEV, G. M., and MOTORINA, L. I., Steklo i Keramika, No 3, Mar 71, pp 34-36

instrument. The vibration itself has no effect on the strength of the fiber, but rather on the test method. When the fibers are initially exposed to vibrations for 6 hours and tested on a quiescent instrument the strength is significantly higher than for the same fibers tested in the presence of vibration. In the course of stressing glass fibers vibrations accelerate the growth of defects and lead to the lowering of the strength of the fiber.

2/2

USSR

UDC 666.117.2

PAVLUSHKIN, N. M., and ZHURAVLEV, A. K.

"Legkoplavkiye Stekla" (Low-Melting Glasses), Moscow, Izd-vo "Energiya," 1970, 144 pp

Translation of Annotation: A summary is given of the results of studies on the production of low melting glasses, methods of investigating them, and areas of their application carried out in the USSR and elsewhere. Theoretical concepts regarding the structure of low melting glass are presented and methods and results of investigations on oxide, oxygen-free, and oxychalcogenide glasses are discussed. Data on the application of low-melting glasses as sealing coatings and as solders for various electronic devices are presented.

The book is intended for scientific and engineering personnel concerned with the study and development of low-melting glasses and their applications.

Table of Contents

Introduction

Types of Low-Melting Glasses and Methods of Producing Them

1/3

4

9

Inorganic Compounds

USSR

UDC 541. 123.22

MOTORNAYA, G. A., and BEN'YASH, Ye. Ya., All Union Scientific Research
Institute of Mining and Metallurgy of Non-Ferrous Metals, Ust'-Kamenogorsk

"Coefficients of Activity of Lead and Cadmium Nitrates in Mixed Aqueous
Solutions at 25°C"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 47, No 8, Aug 73, pp 2074-2077

Abstract: The activity coefficients and osmotic coefficients at 25°C were
calculated from the isopiestic determinations of the activity of water in
mixed solutions of $\text{Pb}(\text{NO}_3)_2$ and $\text{Cd}(\text{NO}_3)_2$.

1/1

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PRIMARY SOURCE: Izvestiya Sibirskogo Otdeleniya, AN SSSR,
Seriya Khimicheskikh Nauk, Nr 12(162), Nr 5,
pp 7-12

G. A. Motornaya,
E. Ya. Benyash, B. S. Khristoforov

STUDY OF $\text{Pb}(\text{NO}_3)_2$ - $\text{Zn}(\text{NO}_3)_2$ - H_2O and $\text{Pb}(\text{NO}_3)_2$ - $\text{Cd}(\text{NO}_3)_2$ - H_2O
SYSTEMS AT 25°C WITH AN ISOPIESTIC METHOD

Activities of water in ternary systems $\text{Pb}(\text{NO}_3)_2$ - $\text{Zn}(\text{NO}_3)_2$ - H_2O and $\text{Pb}(\text{NO}_3)_2$ - $\text{Cd}(\text{NO}_3)_2$ - H_2O were determined with an isopiestic method at 25°C in the range of total molalities of solutions from 0,6 to 5,2 m.

Average molality coefficients of activity and Harned's coefficients were calculated for lead, zinc and cadmium nitrates at the total molality of solutions from 0,8 to 1,8 m. It was found that the systems studied conform with the rules of Zhdanovsky and Harned.

1/1

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UDC 615.371:576.851.45].001.5(47+57.)

SALTYKOV, R. A., MOTORNAYA, V. P., and SIROTYUK, L. V., State Control Institute of Medical Biological Preparations imeni Tarasevich, Moscow

"Experience Gained During 25 Years of Investigating the Stability of the Properties of Vaccinal Tularemia Strains"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972, pp 64-70

Abstract: Stability of immunogenicity and apathogenicity was investigated in Gayskiy's vaccinal strains No 15 and Ondatra-4 since 1943 and in Paybich-Saltykov-Tamarina's vaccinal strains No 10, 33, and 53 since 1944-1947. While the loss of pathogenicity proved to be permanent, strain Ondatra-4 did not retain its full immunogenicity for long and was pronounced unsuitable for live vaccine in 1946. Since that time, efforts were concentrated on developing methods of stabilizing high immunogenicity in vaccinal strains. Freeze-drying according to Paybich-Tamarova's method yielded a dry stock which was convenient for storage but which lost its immunogenicity to a high degree by 1950. Therefore, the strains were cultivated in guinea pig ovaries which have a high hyaluronidase concentration, and in 1953, after 10 passages, they regained their previous high immunogenicity and retained it after freeze-drying. After vaccination of volunteers proved their avirulence, the strains were ratified for

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SALTYKOV, R. A., et al., Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 12, 1972, pp 64-70

serial manufacture of dry live tularemia vaccine. Albino mice are most suitable for testing the pathogenicity and guinea pigs for testing the immunogenicity of vaccinal strains. Currently, Gayskiy's NIEEG strain No 15 yields the most immunologically potent tularemia vaccine.

2/2

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UDC 621.362.538.43-16:537.311.3

USIKOV, A. Ya., TRUTEN', I. D., ~~MOTORHENKO, A. P.~~, BELOUSOV, Ye. V.

"On the Possibility of Using Microwave Ionization to Produce a Non-equilibrium Plasma in Magnetohydrodynamic Generators"

Ukr. fiz. zh. (Ukrainian Physics Journal), 1971, 16, No 5, pp 705-710
(from RZh-Elektrotekhnika i Energetika, No 9, Sep 71, Abstract No 9A79)

Translation: The authors show the possibility of obtaining extended volumes of cold plasma with a charged particle concentration comparable to the concentration in a DC arc by using the ionizing radiation of electromagnetic fields in the superhigh-frequency band. A microwave plasma in argon without additives of alkali metals is produced with a conductivity exceeding 100 mho/m and conditions are determined for further increasing conductivity. Calculations are done to evaluate the effectiveness of using such a preionizer in MHD devices. Four illustrations, one table, bibliography of twenty-one titles. [Institute of Radio Physics and Electronics. Academy of Sciences of the UkrSSR. Khar'kov]. Authors' abstract.

1/1

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UDC 621.762.224

GOLDAYEV, I. P., MOTORNENKO, A. P., SHEVCHENKO, A. P., and
LASTIVNYAK, YU. A., ~~KHAR'KOV~~ Aviation Institute

"Gas-Jet Spraying of Liquid Metals and Alloys"

Kiev, Poroshkovaya Metallurgiya, No 2, Feb 71, pp 9-13

Abstract: One of the most productive methods of producing metal and alloy powders is by spraying a stream of melted metal. The authors of the present article have developed a method for producing these powders by means of a supersonic high-temperature gas jet, designed to improve the thermodynamic parameters of the gas. A gas generator operating by burning a mixture of compressed air and a hydrocarbon fuel such as gasoline is described and illustrated. The supersonic gas stream produced is directed at a stream of melted metal and causes it to break into droplets, producing the powder upon cooling. The gas generator allows the parameters of the gas stream at the output of the nozzle to

1/2